

ABSTRACT

Any one of a Ti-containing water-soluble salt, metatitanic acid ($\text{TiO}(\text{OH})_2$) slurry and ultra fine titanium oxide powder, and a transition metal containing metal salt are dissolved in water to prepare a raw material mixture. The raw material is spray-dried to obtain precursor powder, which is calcined to form ultra fine Ti/transition metal complex oxide and is then mixed with nano-sized carbon particles and subjected to reduction and carburization in a non-oxidizing atmosphere.